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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

BARRY G. BROOME, ET AL

Serial No. 09/074,474

Filed May 7, 1998

For SINGLE OBJECTIVE LENS
FOR USE WITH CD OR DVD
OPTICAL DISKS



Art Unit : 2752

Examiner : Kim-Kwok CHU

January 25, 2000

Hon. Commissioner of Patents
and Trademarks
Washington, D.C. 20231

INFORMATION DISCLOSURE STATEMENT

Sir:

The prior art being submitted herewith was located in a PCT International Search in a PCT application No. PCT/US99/09897 based upon this U.S. application. The Search Report was completed on July 30, 1999. This Information Disclosure Statement is accompanied by the fee set forth in 37 C.F.R. § 1.17(p) in the amount of \$240.

1. The three-page International Search Report mailed August 20, 1999 is enclosed. The Search Report indicates that most of the art cited is category "A" and, therefore, background prior art. The background prior art is not submitted in this filing. However, four references are cited and noted to be category "X" documents with respect to independent claims 1 and 6 as well as to claims 10 and 11. Applicants respectfully submit

1 that the claims as amended patentably distinguish over those four
2 references for reasons stated below.

3 2. EPO patent application No. EP 0 838 812 A2, owned by
4 Konica Corporation, does not use diffractives. Rather the patent
5 teaches the use of a stepped surface which utilizes multiple
6 refraction to get normal resolution. The steps in the surface
7 are not small enough to achieve diffraction and the text at page
8 6, lines 3-13, clearly indicates that the stepped surfaces are
9 only providing refraction. The patent does not suggest or teach
10 the use of diffraction.

11 3. The second and third references cited in the Inter-
12 national Search Report, namely Japanese patent JP 09 179020 A
13 (Asahi Optical Co Ltd), and U.S. patent 5,838,496 to Maruyama et
14 al, are corresponding applications and the applicants have
15 accordingly not translated the Japanese patent. The Maruyama
16 patent (as well as the corresponding Japanese patent) teaches the
17 use of one relatively expensive 650 nm laser. Since the patent
18 teaches only the use of a single laser, the lens described in the
19 patent simply does not have to deal with the problem of sphero-
20 chromatism. The problem of spherochromatism arises when two or
21 more lasers of different wavelength are utilized with a single
22 objective lens in reading disks having different substrate
23 thicknesses, all as disclosed in detail in applicants' pending
24 U.S. application.

25 4. European patent application No. EP 0 844 606 A1 owned
26 by Matsushita Electric Industrial Co., Ltd. does teach the use

1
2 of a lens with central and outer zones, as shown in Fig. 2A.
3 However, this patent does not teach or suggest the use of a
4 diffractive. Similarly, the patent does not discuss the problem
5 of spherochromatism or a way of correcting spherochromatism.

6 We enclose Form PTO/SB/08A.

7 Respectfully submitted,

8
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19 I hereby certify that this correspondence is
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24 Jan. 25, 2000
25 Reg. No. 24,982 of
26 Eckhoff, Hoppe, Slick, Mitchell & Anderson
Signature
Date 1/25/2000